FIG. 1A

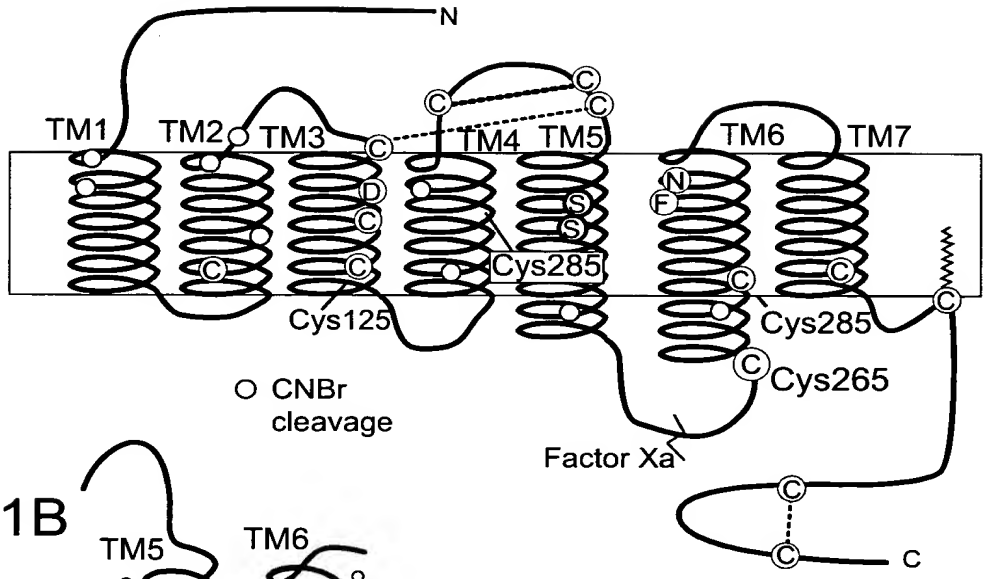
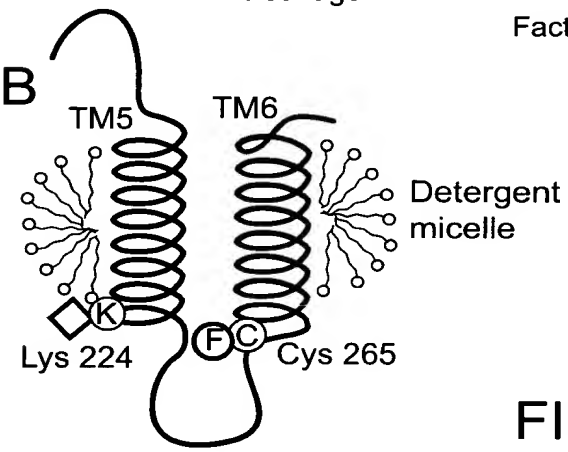


FIG. 1B



FLUORESCEIN MALEIMIDE

OXYL-NHS (quencher)

FIG. 1C

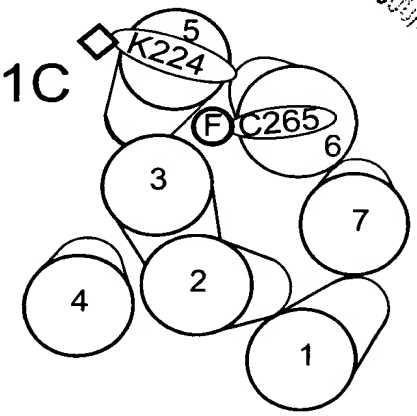


FIG. 2A

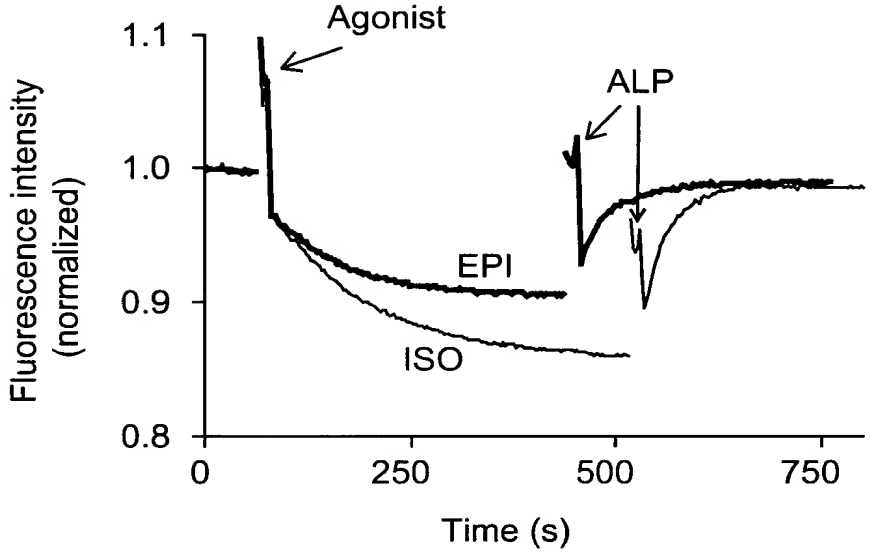


FIG. 2B

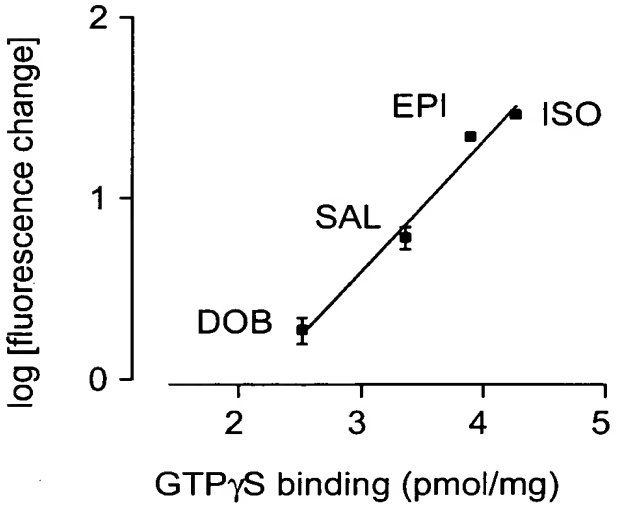


FIG. 3A

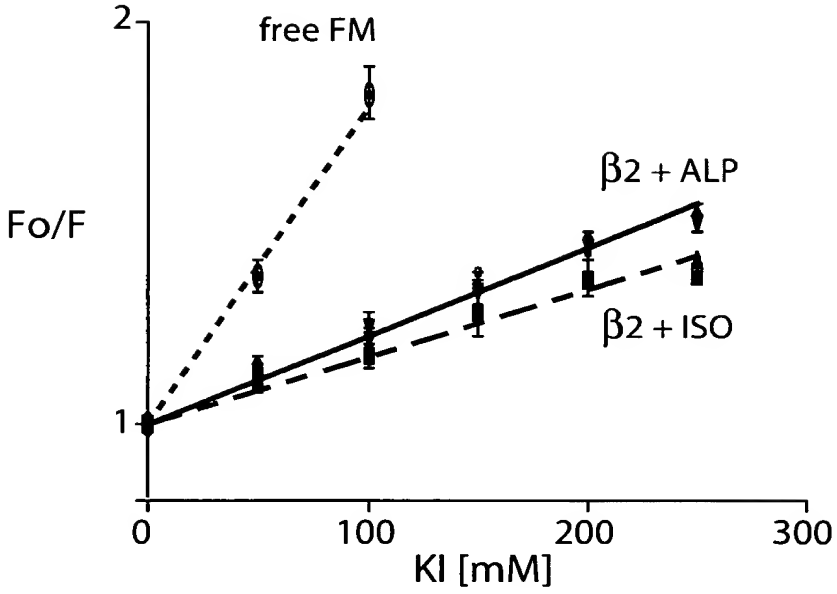


FIG. 3B

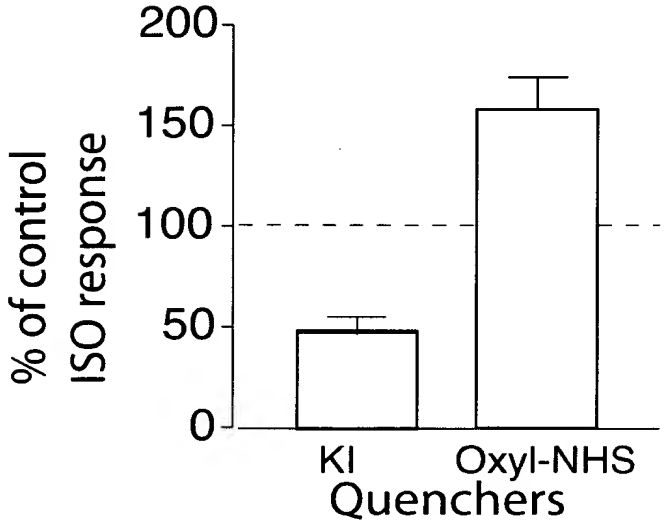


FIG. 4A

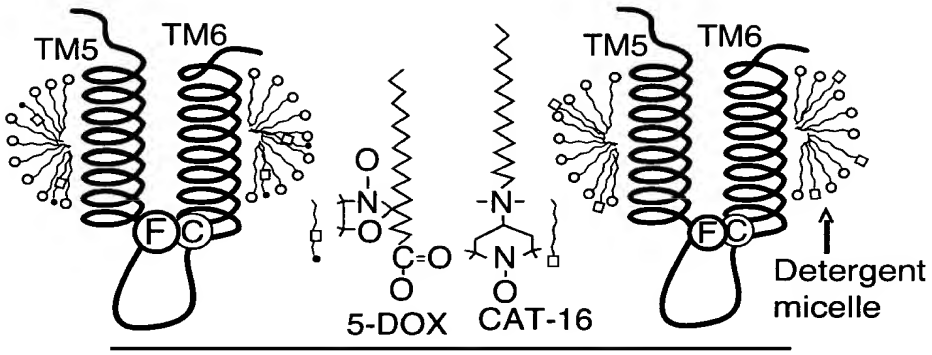


FIG. 4B

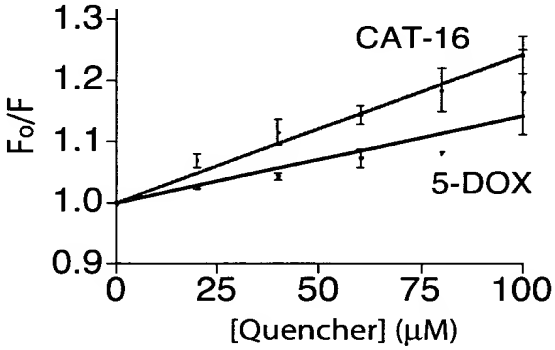


FIG. 4C

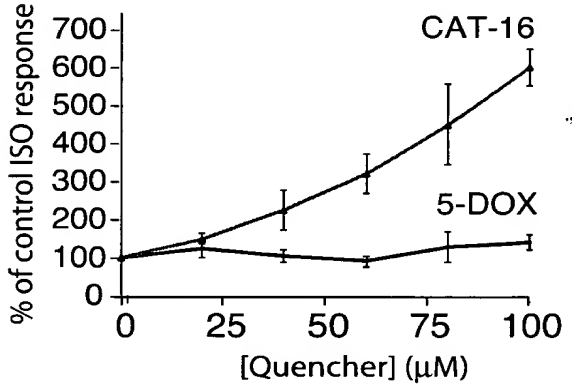
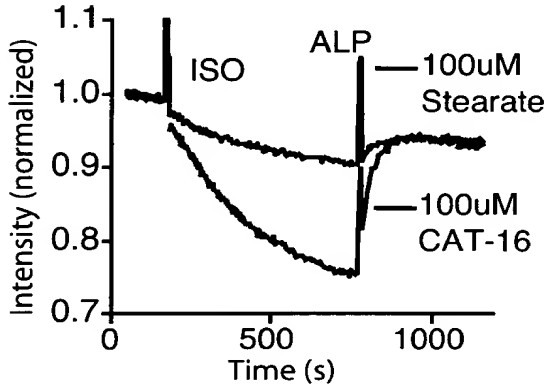


FIG. 4D



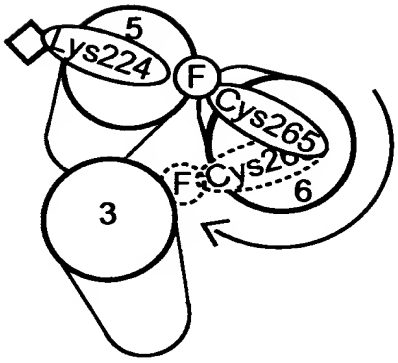


FIG. 5A

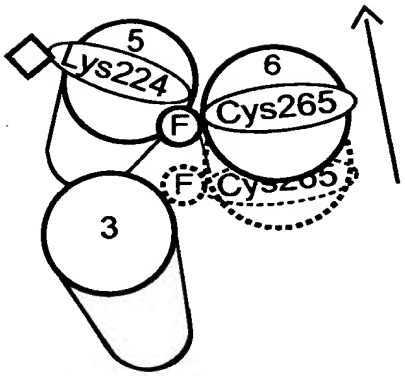


FIG. 5B

FIG. 6A

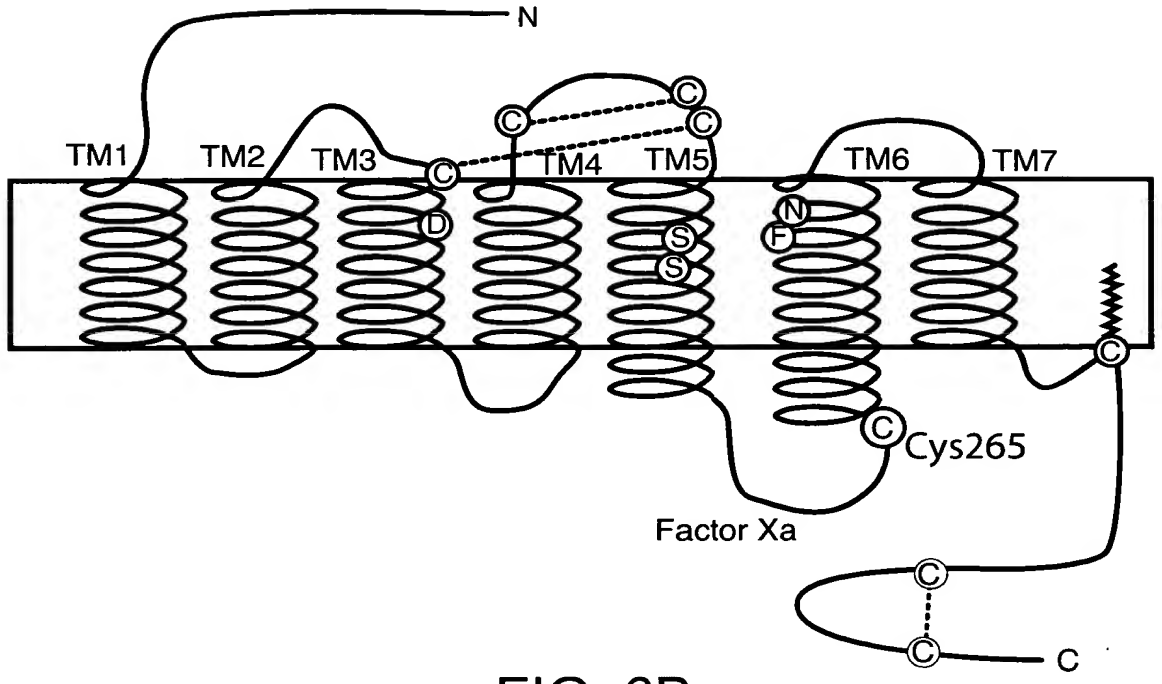


FIG. 6B

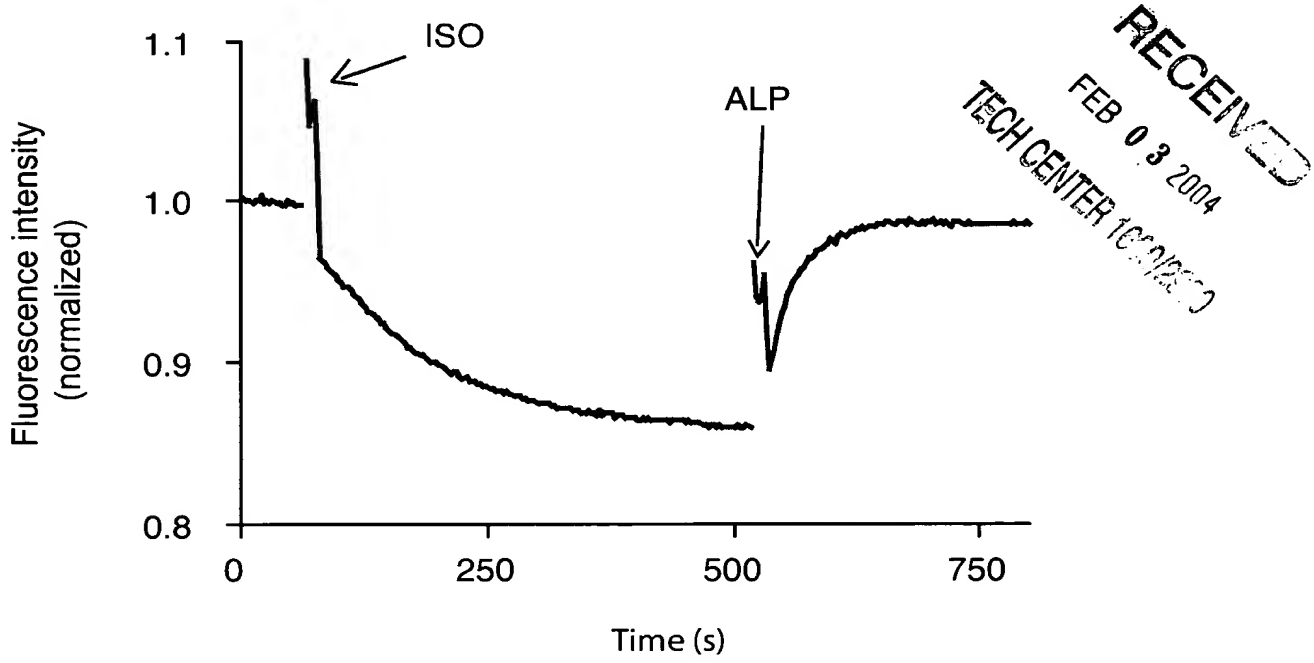


FIG. 7

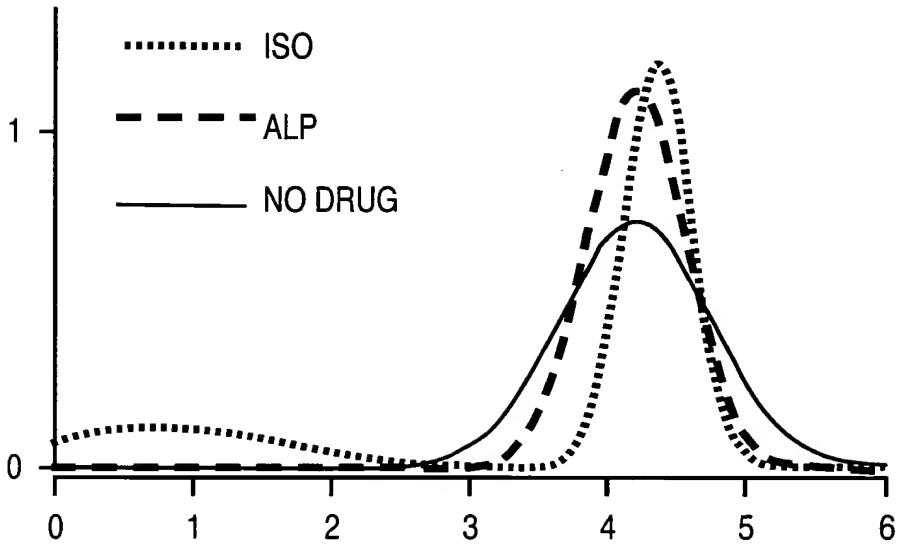


FIG. 8A

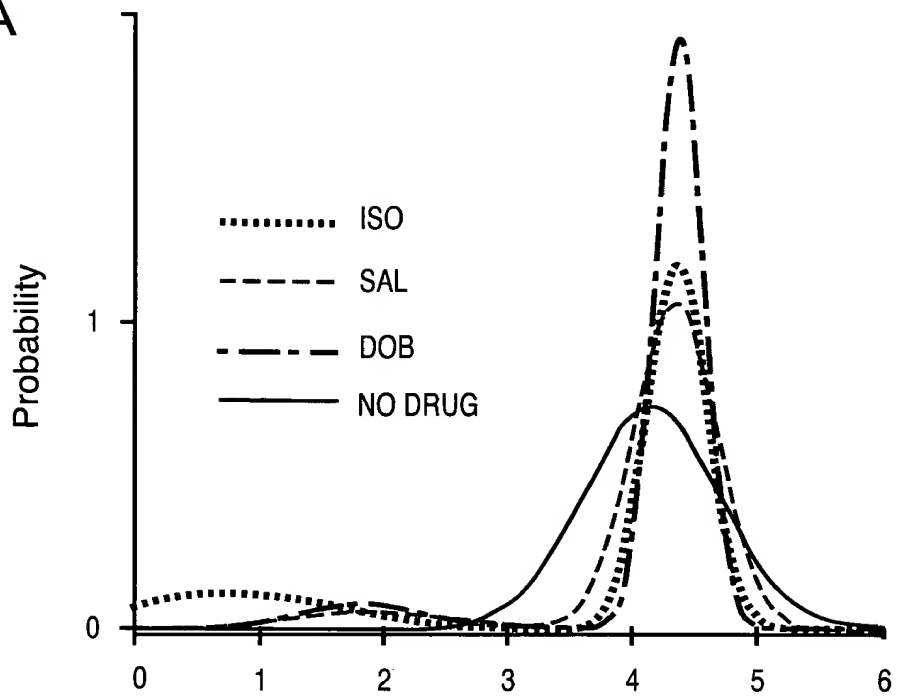


FIG. 8B

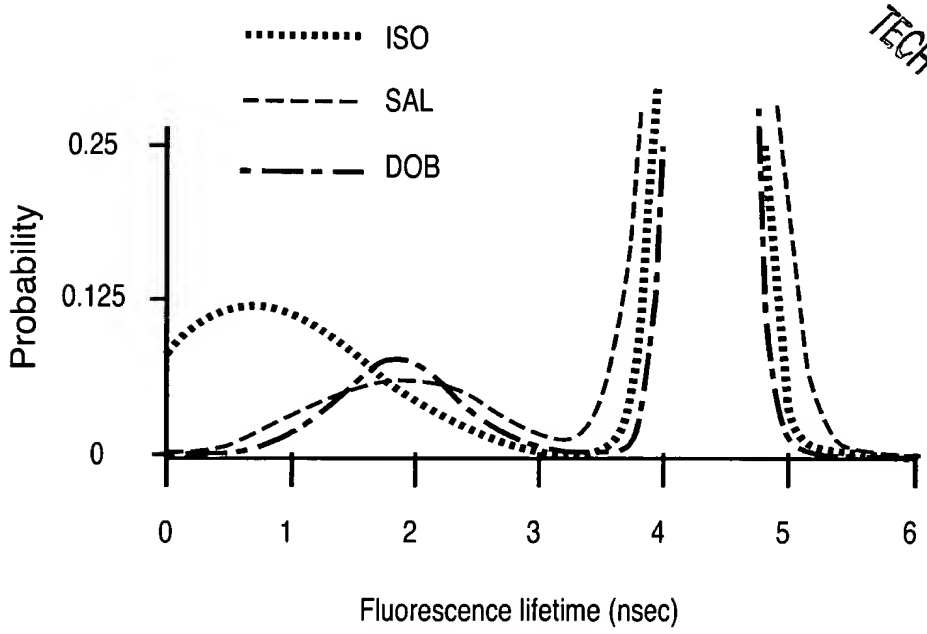


FIG. 9A

FIG. 9B

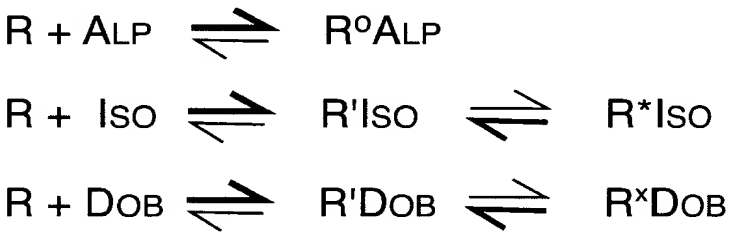


FIG. 10A

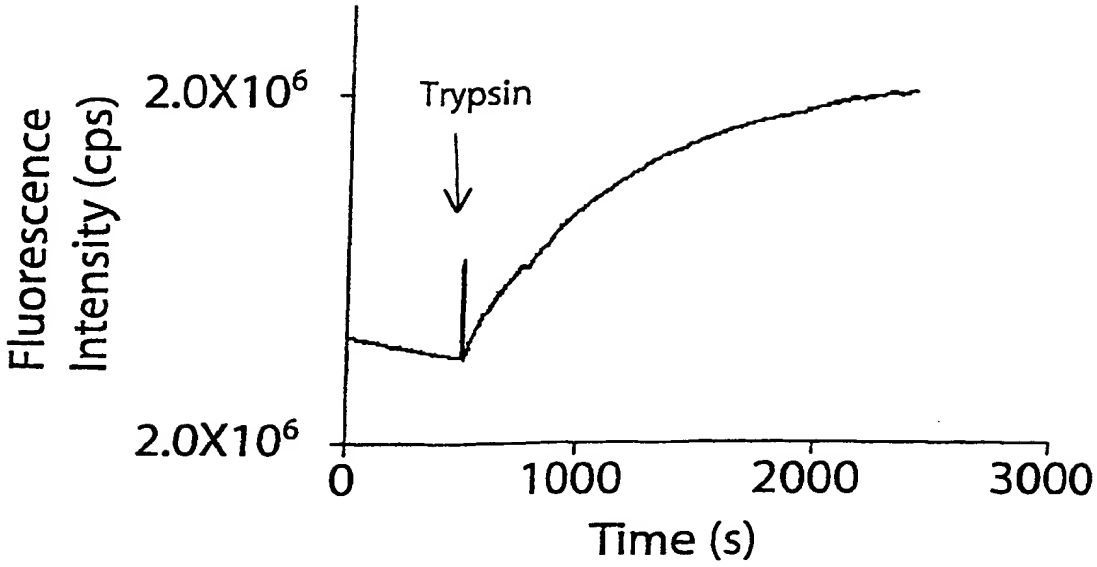


FIG. 10B

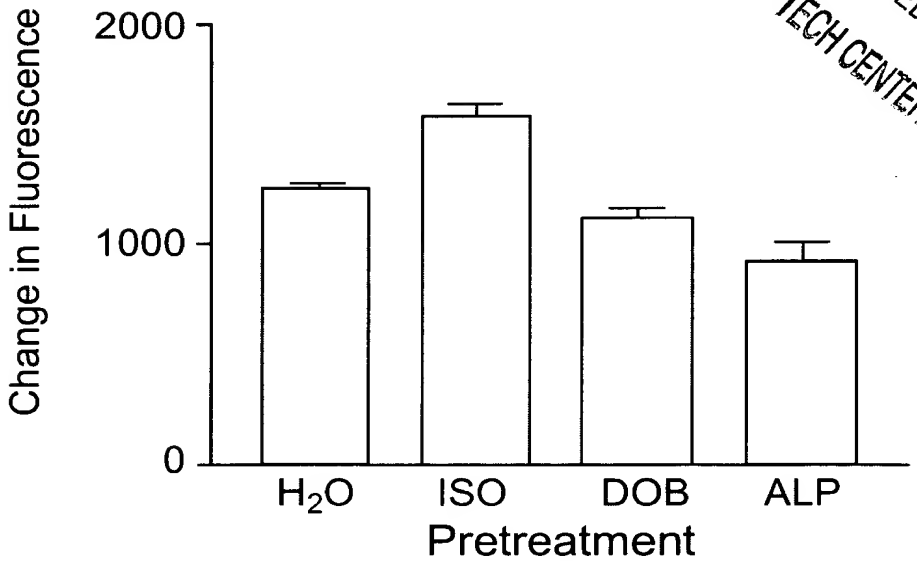
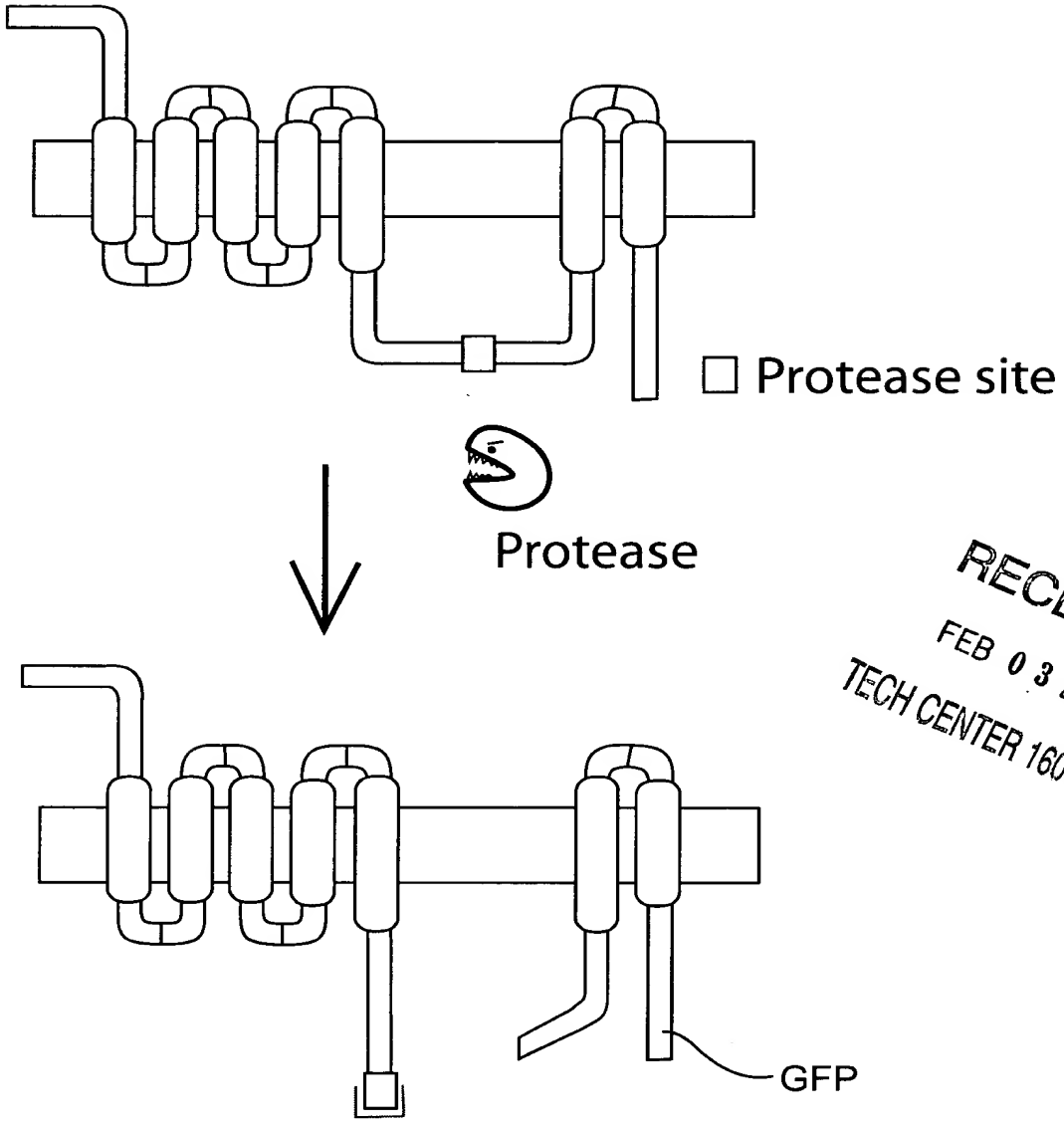


FIG. 11



Modifications to the β2 adrenergic receptor to add TEV protease sites

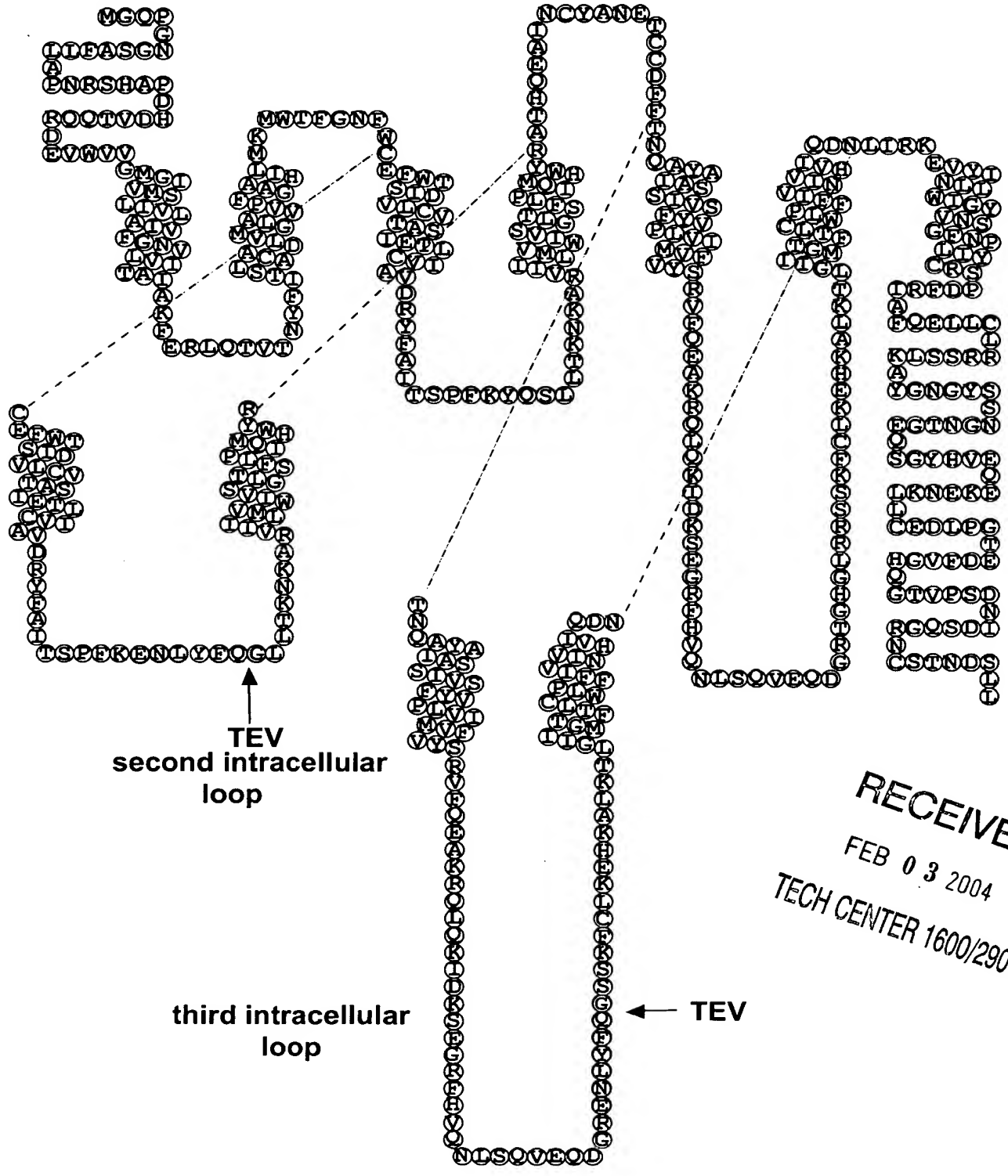


FIG. 12

FIG. 13

β_2 Adrenergic Receptor DNA and Protein sequence

```
ATG GGG CAA CCC GGG AAC GGC AGC GCC TTC TTG CTG GCA CCC AAT AGA AGC CAT GCG CCG GAC
 M   G   Q   P   G   N   G   S   A   F   L   L   A   P   N   R   S   H   A   P   D
CAC GAC GTC ACG CAG CAA AGG GAC GAG GTG TGG GTG GTG GGC ATG GGC ATC GTC ATG TCT CTC
 H   D   V   T   Q   Q   R   D   E   V   W   V   V   G   M   G   I   V   M   S   L
ATC GTC CTG GCC ATC GTG TTT GGC AAT GTG CTG GTC ATC ACA GCC ATT GCC AAG TTC GAG CGT
 I   V   L   A   I   V   F   G   N   V   L   V   I   T   A   I   A   K   F   E   R
CTG CAG ACG GTC ACC AAC TAC TTC ATC ACT TCA CTG GCC TGT GCT GAT CTG GTC ATG GGC CTG
 L   Q   T   V   T   N   Y   F   I   T   S   L   A   C   A   D   L   V   M   G   L
GCA GTG GTG CCC TTT GGG GCC GCC CAT ATT CTT ATG AAA ATG TGG ACT TTT GGC AAC TTC TGG
 A   V   V   P   F   G   A   A   H   I   L   M   K   M   W   T   F   G   N   F   W
TGC GAG TTT TGG ACT TCC ATT GAT GTG CTG TGC GTC ACG GCT AGC ATT GAG ACC CTG TGC GTG
 C   E   F   W   T   S   I   D   V   L   C   V   T   A   S   I   E   T   L   C   V
ATC GCA GTG GAT CGC TAC TTT GCC ATT ACT TCA CCT TTC AAG TAC CAG AGC CTG CTG ACC AAG
 I   A   V   D   R   Y   F   A   I   T   S   P   F   K   Y   Q   S   L   L   T   K
AAT AAG GCC CGG GTG ATC ATT CTG ATG GTG TGG ATT GTG TCA GGC CTT ACC TCC TTC TTG CCC
 N   K   A   R   V   I   I   L   M   V   W   I   V   S   G   L   T   S   F   L   P
ATT CAG ATG CAC TGG TAC CGG GCC ACC CAC CAG GAA GCC ATC AAC TGC TAT GCC AAT GAG ACC
 I   Q   M   H   W   Y   R   A   T   H   Q   E   A   I   N   C   Y   A   N   E   T
TGC TGT GAC TTC TTC ACG AAC CAA GCC TAT GCC ATT GCC TCT TCC ATC GTG TCC TTC TAC GTT
 C   C   D   F   F   T   N   Q   A   Y   A   I   A   S   S   I   V   S   F   Y   V
CCC CTG GTG ATC ATG GTC TTC GTC TAC TCC AGG GTC TTT CAG GAG GCC AAA AGG CAG CTC CAG
 P   L   V   I   M   V   F   V   Y   S   R   V   F   Q   E   A   K   R   Q   L   Q
AAG ATT GAC AAA TCT GAG GGC CGC TTC CAT GTC CAG AAC CTT AGC CAG GTG GAG CAG GAT GGG
 K   I   D   K   S   E   G   R   F   H   V   Q   N   L   S   Q   V   E   Q   D   G
CGG ACG GGG CAT GGA CTC CGC AGA TCT TCC AAG TTC TGC TTG AAG GAG CAC AAA GCC CTC AAG
 R   T   G   H   G   L   R   R   S   S   K   F   C   L   K   E   H   K   A   L   K
ACG TTA GGC ATC ATC ATG GGC ACT TTC ACC CTC TGC TGG CTG CCC TTC TTC ATC GTT AAC ATT
 T   L   G   I   I   M   G   T   F   T   L   C   W   L   P   F   F   I   V   N   I
GTG CAT GTG ATC CAG GAT AAC CTC ATC CGT AAG GAA GTT TAC ATC CTC CTA AAT TGG ATA GGC
 V   H   V   I   Q   D   N   L   I   R   K   E   V   Y   I   L   L   N   W   I   G
TAT GTC AAT TCT GGT TTC AAT CCC CTT ATC TAC TGC CGG AGC CCA GAT TTC AGG ATT GCC TTC
 Y   V   N   S   G   F   N   P   L   I   Y   C   R   S   P   D   F   R   I   A   F
CAG GAG CTC CTG TGC CTG CGC AGG TCT TCT TTG AAG GCC TAT GGG AAT GGC TAC TCC AGC AAC
 Q   E   L   L   C   L   R   R   S   S   L   K   A   Y   G   N   G   Y   S   S   N
GGC AAC ACA GGG GAG CAG AGT GGA TAT CAC GTG GAA CAG GAG AAA GAA AAT AAA CTG CTG TGT
 G   N   T   G   E   Q   S   G   Y   H   V   E   Q   E   K   E   N   K   L   L   C
GAA GAC CTC CCA GGC ACG GAA GAC TTT GTG GGC CAT CAA GGT ACT GTG CCT AGC GAT AAC ATT
 E   D   L   P   G   T   E   D   F   V   G   H   Q   G   T   V   P   S   D   N   I
GAT TCA CAA GGG AGG AAT TGT AGT ACA AAT GAC TCA CTG CTG
 D   S   Q   G   R   N   C   S   T   N   D   S   L   L
```

FIG. 14

β_2 Adrenergic Receptor with TEV site in 2nd intracellular loop

```
ATG GGG CAA CCC GGG AAC GGC AGC GCC TTC TTG CTG GCA CCC AAT AGA AGC CAT GCG CCG GAC
 M   G   Q   P   G   N   G   S   A   F   L   L   A   P   N   R   S   H   A   P   D
CAC GAC GTC ACG CAG CAA AGG GAC GAG GTG TGG GTG GTG GGC ATG GGC ATC GTC ATG TCT CTC
 H   D   V   T   Q   Q   R   D   E   V   W   V   V   G   M   G   I   V   M   S   L
ATC GTC CTG GCC ATC GTG TTT GGC AAT GTG CTG GTC ATC ACA GCC ATT GCC AAG TTC GAG CGT
 I   V   L   A   I   V   F   G   N   V   L   V   I   T   A   I   A   K   F   E   R
CTG CAG ACG GTC ACC AAC TAC TTC ATC ACT TCA CTG GCC TGT GCT GAT CTG GTC ATG GGC CTG
 L   Q   T   V   T   N   Y   F   I   T   S   L   A   C   A   D   L   V   M   G   L
GCA GTG GTG CCC TTT GGG GCC GCC CAT ATT CTT ATG AAA ATG TGG ACT TTT GGC AAC TTC TGG
 A   V   V   P   F   G   A   A   H   I   L   M   K   M   W   T   F   G   N   F   W
TGC GAG TTT TGG ACT TCC ATT GAT GTG CTG TGC GTC ACG GCT AGC ATT GAG ACC CTG TGC GTG
 C   E   F   W   T   S   I   D   V   L   C   V   T   A   S   I   E   T   L   C   V
ATC GCA GTG GAT CGC TAC TTT GCC ATT ACT TCA CCT TTC AAG GAG AAT CTC TAC TTC CAG GGC
 I   A   V   D   R   Y   F   A   I   T   S   P   F   K   E   N   L   Y   F   Q   G
CTG CTG ACC AAG AAT AAG GCC CGG GTG ATC ATT CTG ATG GTG TGG ATT GTG TCA GGC CTT ACC
 L   L   T   K   N   K   A   R   V   I   I   L   M   V   W   I   V   S   G   L   T
TCC TTC TTG CCC ATT CAG ATG CAC TGG TAC CGG GCC ACC CAC CAG GAA GCC ATC AAC TGC TAT
 S   F   L   P   I   Q   M   H   W   Y   R   A   T   H   Q   E   A   I   N   C   Y
GCC AAT GAG ACC TGC TGT GAC TTC TTC ACG AAC CAA GCC TAT GCC ATT GCC TCT TCC ATC GTG
 A   N   E   T   C   C   D   F   F   T   N   Q   A   Y   A   I   A   S   S   I   V
TCC TTC TAC GTT CCC CTG GTG ATC ATG GTC TTC GTC TAC TCC AGG GTC TTT CAG GAG GCC AAA
 S   F   Y   V   P   L   V   I   M   V   F   V   Y   S   R   V   F   Q   E   A   K
AGG CAG CTC CAG AAG ATT GAC AAA TCT GAG GGC CGC TTC CAT GTC CAG AAC CTT AGC CAG GTG
 R   Q   L   Q   K   I   D   K   S   E   G   R   F   H   V   Q   N   L   S   Q   V
GAG CAG GAT GGG CGG ACG GGG CAT GGA CTC CGC AGA TCT TCC AAG TTC TGC TTG AAG GAG CAC
 E   Q   D   G   R   T   G   H   G   L   R   R   S   S   K   F   C   L   K   E   H
AAA GCC CTC AAG ACG TTA GGC ATC ATC ATG GGC ACT TTC ACC CTC TGC TGG CTG CCC TTC TTC
 K   A   L   K   T   L   G   I   I   M   G   T   F   T   L   C   W   L   P   F   F
ATC GTT AAC ATT GTG CAT GTG ATC CAG GAT AAC CTC ATC CGT AAG GAA GTT TAC ATC CTC CTA
 I   V   N   I   V   H   V   I   Q   D   N   L   I   R   K   E   V   Y   I   L   L
AAT TGG ATA GGC TAT GTC AAT TCT GGT TTC AAT CCC CTT ATC TAC TGC CGG AGC CCA GAT TTC
 N   W   I   G   Y   V   N   S   G   F   N   P   L   I   Y   C   R   S   P   D   F
AGG ATT GCC TTC CAG GAG CTC CTG TGC CTG CGC AGG TCT TCT TTG AAG GCC TAT GGG AAT GGC
 R   I   A   F   Q   E   L   L   C   L   R   R   S   S   L   K   A   Y   G   N   G
TAC TCC AGC AAC GGC AAC ACA GGG GAG CAG AGT GGA TAT CAC GTG GAA CAG GAG AAA GAA AAT
 Y   S   S   N   G   N   T   G   E   Q   S   G   Y   H   V   E   Q   E   K   E   N
AAA CTG CTG TGT GAA GAC CTC CCA GGC ACG GAA GAC TTT GTG GGC CAT CAA GGT ACT GTG CCT
 K   L   L   C   E   D   L   P   G   T   E   D   F   V   G   H   Q   G   T   V   P
AGC GAT AAC ATT GAT TCA CAA GGG AGG AAT TGT AGT ACA AAT GAC TCA CTG CTG
 S   D   N   I   D   S   Q   G   R   N   C   S   T   N   D   S   L   L
```

FIG. 15

b_2 Adrenergic Receptor with TEV site in 3rd intracellular loop

```
ATG GGG CAA CCC GGG AAC GGC AGC GCC TTC TTG CTG GCA CCC AAT AGA AGC CAT GCG CCG GAC
 M   G   Q   P   G   N   G   S   A   F   L   L   A   P   N   R   S   H   A   P   D
CAC GAC GTC ACG CAG CAA AGG GAC GAG GTG TGG GTG GTG GGC ATG GGC ATC GTC ATG TCT CTC
 H   D   V   T   Q   Q   R   D   E   V   W   V   V   G   M   G   I   V   M   S   L
ATC GTC CTG GCC ATC GTG TTT GGC AAT GTG CTG GTC ATC ACA GCC ATT GCC AAG TTC GAG CGT
 I   V   L   A   I   V   F   G   N   V   L   V   I   T   A   I   A   K   F   E   R
CTG CAG ACG GTC ACC AAC TAC TTC ATC ACT TCA CTG GCC TGT GCT GAT CTG GTC ATG GGC CTG
 L   Q   T   V   T   N   Y   F   I   T   S   L   A   C   A   D   L   V   M   G   L
GCA GTG GTG CCC TTT GGG GCC GCC CAT ATT CTT ATG AAA ATG TGG ACT TTT GGC AAC TTC TGG
 A   V   V   P   F   G   A   A   H   I   L   M   K   M   W   T   F   G   N   F   W
TGC GAG TTT TGG ACT TCC ATT GAT GTG CTG TGC GTC ACG GCT AGC ATT GAG ACC CTG TGC GTG
 C   E   F   W   T   S   I   D   V   L   C   V   T   A   S   I   E   T   L   C   V
ATC GCA GTG GAT CGC TAC TTT GCC ATT ACT TCA CCT TTC AAG TAC CAG AGC CTG CTG ACC AAG
 I   A   V   D   R   Y   F   A   I   T   S   P   F   K   Y   Q   S   L   L   T   K
AAT AAG GCC CGG GTG ATC ATT CTG ATG GTG TGG ATT GTG TCA GGC CTT ACC TCC TTC TTG CCC
 N   K   A   R   V   I   I   L   M   V   W   I   V   S   G   L   T   S   F   L   P
ATT CAG ATG CAC TGG TAC CGG GCC ACC CAC CAG GAA GCC ATC AAC TGC TAT GCC AAT GAG ACC
 I   Q   M   H   W   Y   R   A   T   H   Q   E   A   I   N   C   Y   A   N   E   T
TGC TGT GAC TTC TTC ACG AAC CAA GCC TAT GCC ATT GCC TCT TCC ATC GTG TCC TTC TAC GTT
 C   C   D   F   F   T   N   Q   A   Y   A   I   A   S   S   I   V   S   F   Y   V
CCC CTG GTG ATC ATG GTC TTC GTC TAC TCC AGG GTC TTT CAG GAG GCC AAA AGG CAG CTC CAG
 P   L   V   I   M   V   F   V   Y   S   R   V   F   Q   E   A   K   R   Q   L   Q
AAG ATT GAC AAA TCT GAG GGC CGC TTC CAT GTC CAG AAC CTT AGC CAG GTG GAG CAG GAT GGG
 K   I   D   K   S   E   G   R   F   H   V   Q   N   L   S   Q   V   E   Q   D   G
CGG GAG AAT CTC TAC TTC CAG GGC TCT TCC AAG TTC TGC TTG AAG GAG CAC AAA GCC CTC AAG
 R   E   N   L   Y   F   Q   G   S   S   K   F   C   L   K   E   H   K   A   L   K
ACG TTA GGC ATC ATC ATG GGC ACT TTC ACC CTC TGC TGG CTG CCC TTC TTC ATC GTT AAC ATT
 T   L   G   I   I   M   G   T   F   T   L   C   W   L   P   F   F   I   V   N   I
GTG CAT GTG ATC CAG GAT AAC CTC ATC CGT AAG GAA GTT TAC ATC CTC CTA AAT TGG ATA GGC
 V   H   V   I   Q   D   N   L   I   R   K   E   V   Y   I   L   L   N   W   I   G
TAT GTC AAT TCT GGT TTC AAT CCC CTT ATC TAC TGC CGG AGC CCA GAT TTC AGG ATT GCC TTC
 Y   V   N   S   G   F   N   P   L   I   Y   C   R   S   P   D   F   R   I   A   F
CAG GAG CTC CTG TGC CTG CGC AGG TCT TCT TTG AAG GCC TAT GGG AAT GGC TAC TCC AGC AAC
 Q   E   L   L   C   L   R   R   S   S   L   K   A   Y   G   N   G   Y   S   S   N
GGC AAC ACA GGG GAG CAG AGT GGA TAT CAC GTG GAA CAG GAG AAA GAA AAT AAA CTG CTG TGT
 G   N   T   G   E   Q   S   G   Y   H   V   E   Q   E   K   E   N   K   L   L   C
GAA GAC CTC CCA GGC ACG GAA GAC TTT GTG GGC CAT CAA GGT ACT GTG CCT AGC GAT AAC ATT
 E   D   L   P   G   T   E   D   F   V   G   H   Q   G   T   V   P   S   D   N   I
GAT TCA CAA GGG AGG AAT TGT AGT ACA AAT GAC TCA CTG CTG
 D   S   Q   G   R   N   C   S   T   N   D   S   L   L
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Modifications to the μ opioid receptor to add TEV protease sites

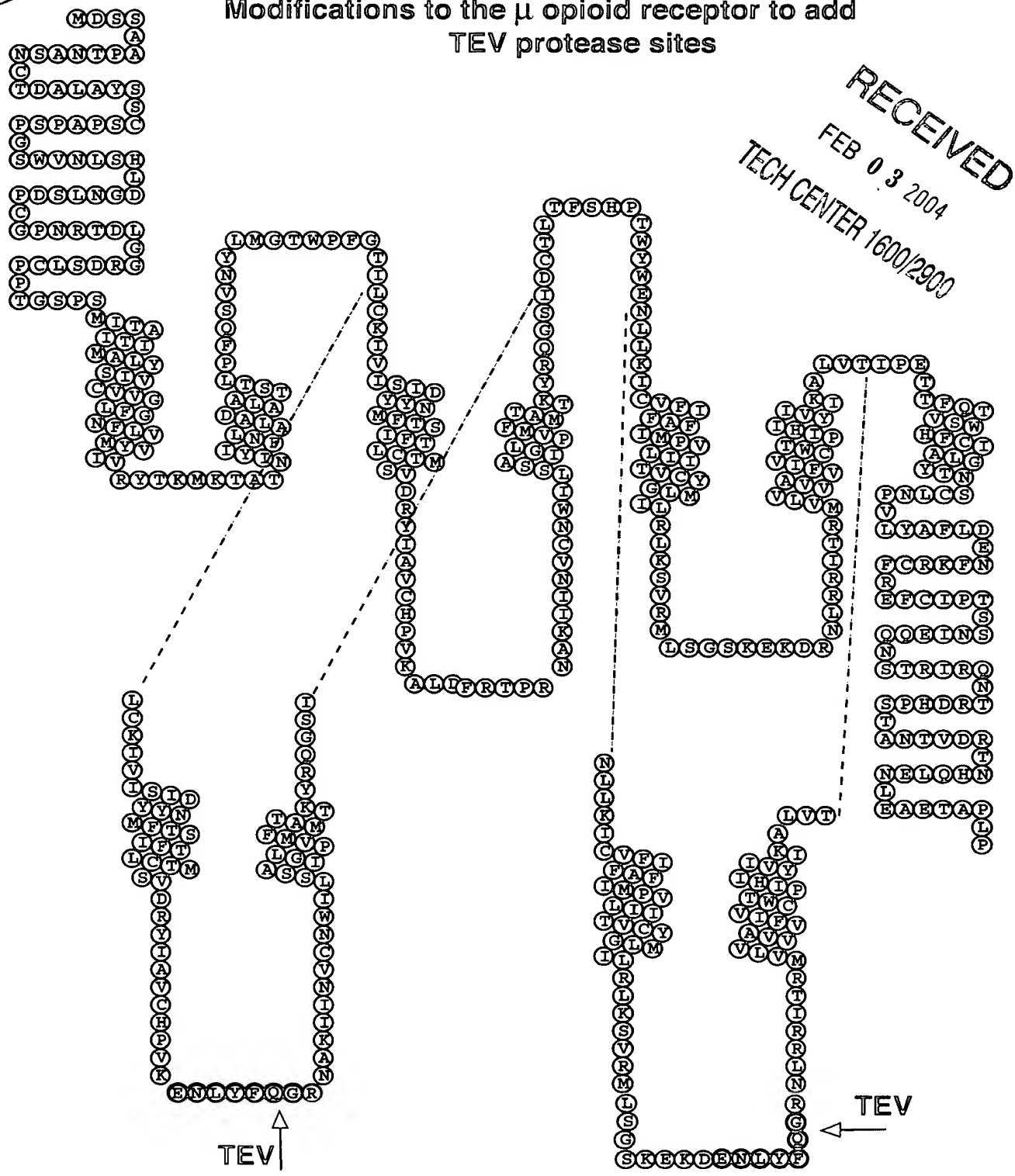

FIG. 16

μ Opioid receptor DNA and Protein sequence

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ATG GAC AGC AGC GCT GCC CCC ACG AAC GCC AGC AAT TGC ACT GAT GCC TTG GCG TAC TCA AGT
 M   D   S   S   A   A   P   T   N   A   S   N   C   T   D   A   L   A   Y   S   S
TGC TCC CCA GCA CCC AGC CCC GGT TCC TGG GTC AAC TTG TCC CAC TTA GAT GGC GAC CTG TCC
 C   S   P   A   P   S   P   G   S   W   V   N   L   S   H   L   D   G   D   L   S
GAC CCA TGC GGT CCG AAC CGC ACC GAC CTG GGC GGG AGA GAC AGC CTG TGC CCT CCA ACC GGC
 D   P   C   G   P   N   R   T   D   L   G   G   R   D   S   L   C   P   P   T   G
AGT CCC TCC ATG ATC ACG GCC ATC ACG ATC ATG GCC CTC TAC TCC ATC GTG TGC GTG GTG GGG
 S   P   S   M   I   T   A   I   T   I   M   A   L   Y   S   I   V   C   V   V   G
CTC TTC GGA AAC TTC CTG GTC ATG TAT GTG ATT GTC AGA TAC ACC AAG ATG AAG ACT GCC ACC
 L   F   G   N   F   L   V   M   Y   V   I   V   R   Y   T   K   M   K   T   A   T
AAC ATC TAC ATT TTC AAC CTT GCT CTG GCA GAT GCC TTA GCC ACC AGT ACC CTG CCC TTC CAG
 N   I   Y   I   F   N   L   A   L   A   D   A   L   A   T   S   T   L   P   F   Q
AGT GTG AAT TAC CTA ATG GGA ACA TGG CCA TTT GGA ACC ATC CTT TGC AAG ATA GTG ATC TCC
 S   V   N   Y   L   M   G   T   W   P   F   G   T   I   L   C   K   I   V   I   S
ATA GAT TAC TAT AAC ATG TTC ACC AGC ATA TTC ACC CTC TGC ACC ATG AGT GTT GAT CGA TAC
 I   D   Y   Y   N   M   F   T   S   I   F   T   L   C   T   M   S   V   D   R   Y
ATT GCA GTC TGC CAC CCT GTC AAG GCC TTA GAT TTC CGT ACT CCC CGA AAT GCC AAA ATT ATC
 I   A   V   C   H   P   V   K   A   L   D   F   R   T   P   R   N   A   K   I   I
AAT GTC TGC AAC TGG ATC CTC TCT TCA GCC ATT GGT CTT CCT GTA ATG TTC ATA GCT ACA ACA
 N   V   C   N   W   I   L   S   S   A   I   G   L   P   V   M   F   I   A   T   T
AAA TAC AGG CAA GGT TCC ATA GAT TGT ACA CTA ACA TTC TCT CAT CCA ACC TGG TAC TGG GAA
 K   Y   R   Q   G   S   I   D   C   T   L   T   F   S   H   P   T   W   Y   W   E
AAC CTG CTG AAG ATC TGT GTT TTC ATC TTC GCC TTC ATT ATG CCA GTG CTC ATC ATT ACC GTG
 N   L   L   K   I   C   V   F   I   F   A   F   I   M   P   V   L   I   I   T   V
TGC TAT GGA CTG ATG ATC TTG CGC CTC AAG AGT GTC CGC ATG CTC TCT GGC TCC AAA GAA AAG
 C   Y   G   L   M   I   L   R   L   K   S   V   R   M   L   S   G   S   K   E   K
GAC AGG AAT CTT CGA AGG ATC ACC AGG ATG GTG CTG GTG GTG GTG GCT GTG TTC ATC GTC TGC
 D   R   N   L   R   R   I   T   R   M   V   L   V   V   V   A   V   F   I   V   C
TGG ACT CCC ATT CAC ATT TAC GTC ATC ATT AAA GCC TTG GTT ACA ATC CCA GAA ACT ACG TTC
 W   T   P   I   H   I   Y   V   I   I   K   A   L   V   T   I   P   E   T   T   F
CAG ACT GTT TCT TGG CAC TTC TGC ATT GCT CTA GGT TAC ACA AAC AGC TGC CTC AAC CCA GTC
 Q   T   V   S   W   H   F   C   I   A   L   G   Y   T   N   S   C   L   N   P   V
CTT TAT GCA TTT CTG GAT GAA AAC TTC AAA CGA TGC TTC AGA GAG TTC TGT ATC CCA ACC TCT
 L   Y   A   F   L   D   E   N   F   K   R   C   F   R   E   F   C   I   P   T   S
TCC AAC ATT GAG CAA CAA AAC TCC ACT CGA ATT CGT CAG AAC ACT AGA GAC CAC CCC TCC ACG
 S   N   I   E   Q   Q   N   S   T   R   I   R   Q   N   T   R   D   H   P   S   T
GCC AAT ACA GTG GAT AGA ACT AAT CAT CAG GTA CGC AGT CTC
 A   N   T   V   D   R   T   N   H   Q   V   R   S   L
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FIG. 17

μ Opioid receptor with TEV site in 2nd intracellular loop

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ATG GAC AGC AGC GCT GCC CCC ACG AAC GCC AGC AAT TGC ACT GAT GCC TTG GCG TAC TCA AGT
 M   D   S   S   A   A   P   T   N   A   S   N   C   T   D   A   L   A   Y   S   S
TGC TCC CCA GCA CCC AGC CCC GGT TCC TGG GTC AAC TTG TCC CAC TTA GAT GGC GAC CTG TCC
 C   S   P   A   P   S   P   G   S   W   V   N   L   S   H   L   D   G   D   L   S
GAC CCA TGC GGT CCG AAC CGC ACC GAC CTG GGC GGG AGA GAC AGC CTG TGC CCT CCA ACC GGC
 D   P   C   G   P   N   R   T   D   L   G   G   R   D   S   L   C   P   P   T   G
AGT CCC TCC ATG ATC ACG GCC ATC ACG ATC ATG GCC CTC TAC TCC ATC GTG TGC GTG GTG GGG
 S   P   S   M   I   T   A   I   T   I   M   A   L   Y   S   I   V   C   V   V   G
CTC TTC GGA AAC TTC CTG GTC ATG TAT GTG ATT GTC AGA TAC ACC AAG ATG AAG ACT GCC ACC
 L   F   G   N   F   L   V   M   Y   V   I   V   R   Y   T   K   M   K   T   A   T
AAC ATC TAC ATT TTC AAC CTT GCT CTG GCA GAT GCC TTA GCC ACC AGT ACC CTG CCC TTC CAG
 N   I   Y   I   F   N   L   A   L   A   D   A   L   A   T   S   T   L   P   F   Q
AGT GTG AAT TAC CTA ATG GGA ACA TGG CCA TTT GGA ACC ATC CTT TGC AAG ATA GTG ATC TCC
 S   V   N   Y   L   M   G   T   W   P   F   G   T   I   L   C   K   I   V   I   S
ATA GAT TAC TAT AAC ATG TTC ACC AGC ATA TTC ACC CTC TGC ACC ATG AGT GTT GAT CGA TAC
 I   D   Y   Y   N   M   F   T   S   I   F   T   L   C   T   M   S   V   D   R   Y
ATT GCA GTC TGC CAC CCT GTC AAG GAA AAC CTC TAC TTC CAG GGG CGA AAT GCC AAA ATT ATC
 I   A   V   C   H   P   V   K   E   N   L   Y   F   Q   G   R   N   A   K   I   I
AAT GTC TGC AAC TGG ATC CTC TCT TCA GCC ATT GGT CTT CCT GTA ATG TTC ATA GCT ACA ACA
 N   V   C   N   W   I   L   S   S   A   I   G   L   P   V   M   F   I   A   T   T
AAA TAC AGG CAA GGT TCC ATA GAT TGT ACA CTA ACA TTC TCT CAT CCA ACC TGG TAC TGG GAA
 K   Y   R   Q   G   S   I   D   C   T   L   T   F   S   H   P   T   W   Y   W   E
AAC CTG CTG AAG ATC TGT GTT TTC ATC TTC GCC TTC ATT ATG CCA GTG CTC ATC ATT ACC GTG
 N   L   L   K   I   C   V   F   I   F   A   F   I   M   P   V   L   I   I   T   V
TGC TAT GGA CTG ATG ATC TTG CGC CTC AAG AGT GTC CGC ATG CTC TCT GGC TCC AAA GAA AAG
 C   Y   G   L   M   I   L   R   L   K   S   V   R   M   L   S   G   S   K   E   K
GAC AGG AAT CTT CGA AGG ATC ACC AGG ATG GTG CTG GTG GTG GTG GCT GTG TTC ATC GTC TGC
 D   R   N   L   R   R   I   T   R   M   V   L   V   V   V   A   V   F   I   V   C
TGG ACT CCC ATT CAC ATT TAC GTC ATC ATT AAA GCC TTG GTT ACA ATC CCA GAA ACT ACG TTC
 W   T   P   I   H   I   Y   V   I   I   K   A   L   V   T   I   P   E   T   T   F
CAG ACT GTT TCT TGG CAC TTC TGC ATT GCT CTA GGT TAC ACA AAC AGC TGC CTC AAC CCA GTC
 Q   T   V   S   W   H   F   C   I   A   L   G   Y   T   N   S   C   L   N   P   V
CTT TAT GCA TTT CTG GAT GAA AAC TTC AAA CGA TGC TTC AGA GAG TTC TGT ATC CCA ACC TCT
 L   Y   A   F   L   D   E   N   F   K   R   C   F   R   E   F   C   I   P   T   S
TCC AAC ATT GAG CAA CAA AAC TCC ACT CGA ATT CGT CAG AAC ACT AGA GAC CAC CCC TCC ACG
 S   N   I   E   Q   Q   N   S   T   R   I   R   Q   N   T   R   D   H   P   S   T
GCC AAT ACA GTG GAT AGA ACT AAT CAT CAG GTA CGC AGT CTC
 A   N   T   V   D   R   T   N   H   Q   V   R   S   L
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FIG. 18

μ Opioid receptor with TEV site in 3rd intracellular loop

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ATG GAC AGC AGC GCT GCC CCC ACG AAC GCC AGC AAT TGC ACT GAT GCC TTG GCG TAC TCA AGT
 M   D   S   S   A   A   P   T   N   A   S   N   C   T   D   A   L   A   Y   S   S
TGC TCC CCA GCA CCC AGC CCC GGT TCC TGG GTC AAC TTG TCC CAC TTA GAT GGC GAC CTG TCC
 C   S   P   A   P   S   P   G   S   W   V   N   L   S   H   L   D   G   D   L   S
GAC CCA TGC GGT CCG AAC CGC ACC GAC CTG GGC GGG AGA GAC AGC CTG TGC CCT CCA ACC GGC
 D   P   C   G   P   N   R   T   D   L   G   G   R   D   S   L   C   P   P   T   G
AGT CCC TCC ATG ATC ACG GCC ATC ACG ATC ATG GCC CTC TAC TCC ATC GTG TGC GTG GTG GGG
 S   P   S   M   I   T   A   I   T   I   M   A   L   Y   S   I   V   C   V   V   G
CTC TTC GGA AAC TTC CTG GTC ATG TAT GTG ATT GTC AGA TAC ACC AAG ATG AAG ACT GCC ACC
 L   F   G   N   F   L   V   M   Y   V   I   V   R   Y   T   K   M   K   T   A   T
AAC ATC TAC ATT TTC AAC CTT GCT CTG GCA GAT GCC TTA GCC ACC AGT ACC CTG CCC TTC CAG
 N   I   Y   I   F   N   L   A   L   A   D   A   L   A   T   S   T   L   P   F   Q
AGT GTG AAT TAC CTA ATG GGA ACA TGG CCA TTT GGA ACC ATC CTT TGC AAG ATA GTG ATC TCC
 S   V   N   Y   L   M   G   T   W   P   F   G   T   I   L   C   K   I   V   I   S
ATA GAT TAC TAT AAC ATG TTC ACC AGC ATA TTC ACC CTC TGC ACC ATG AGT GTT GAT CGA TAC
 I   D   Y   Y   N   M   F   T   S   I   F   T   L   C   T   M   S   V   D   R   Y
ATT GCA GTC TGC CAC CCT GTC AAG GCC TTA GAT TTC CGT ACT CCC CGA AAT GCC AAA ATT ATC
 I   A   V   C   H   P   V   K   A   L   D   F   R   T   P   R   N   A   K   I   I
AAT GTC TGC AAC TGG ATC CTC TCT TCA GCC ATT GGT CTT CCT GTA ATG TTC ATA GCT ACA ACA
 N   V   C   N   W   I   L   S   S   A   I   G   L   P   V   M   F   I   A   T   T
AAA TAC AGG CAA GGT TCC ATA GAT TGT ACA CTA ACA TTC TCT CAT CCA ACC TGG TAC TGG GAA
 K   Y   R   Q   G   S   I   D   C   T   L   T   F   S   H   P   T   W   Y   W   E
AAC CTG CTG AAG ATC TGT GTT TTC ATC TTC GCC TTC ATT ATG CCA GTG CTC ATC ATT ACC GTG
 N   L   L   K   I   C   V   F   I   F   A   F   I   M   P   V   L   I   I   T   V
TGC TAT GGA CTG ATG ATC TTG CGC CTC AAG AGT GTC CGC ATG CTC TCT GGC TCC AAA GAA AAG
 C   Y   G   L   M   I   L   R   L   K   S   V   R   M   L   S   G   S   K   E   K
GAC GAA AAC CTC TAC TTC CAG GGG AGG AAT CTT CGA AGG ATC ACC AGG ATG GTG CTG GTG GTG
 D   E   N   L   Y   F   Q   G   R   N   L   R   R   I   T   R   M   V   L   V   V
GTG GCT GTG TTC ATC GTC TGC TGG ACT CCC ATT CAC ATT TAC GTC ATC ATT AAA GCC TTG GTT
 V   A   V   F   I   V   C   W   T   P   I   H   I   Y   V   I   I   K   A   L   V
ACA ATC CCA GAA ACT ACG TTC CAG ACT GTT TCT TGG CAC TTC TGC ATT GCT CTA GGT TAC ACA
 T   I   P   E   T   T   F   Q   T   V   S   W   H   F   C   I   A   L   G   Y   T
AAC AGC TGC CTC AAC CCA GTC CTT TAT GCA TTT CTG GAT GAA AAC TTC AAA CGA TGC TTC AGA
 N   S   C   L   N   P   V   L   Y   A   F   L   D   E   N   F   K   R   C   F   R
GAG TTC TGT ATC CCA ACC TCT TCC AAC ATT GAG CAA CAA AAC TCC ACT CGA ATT CGT CAG AAC
 E   F   C   I   P   T   S   S   N   I   E   Q   Q   N   S   T   R   I   R   Q   N
ACT AGA GAC CAC CCC TCC ACG GCC AAT ACA GTG GAT AGA ACT AAT CAT CAG GTA CGC AGT CTC
 T   R   D   H   P   S   T   A   N   T   V   D   R   T   N   H   Q   V   R   S   L
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FIG. 19